NEW MEXICO
ENVIRONMENT DEPARTMENT

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RYAN FLYNN
Cabinet Secretary

BUTCH TONGATE
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 5, 2016

Ms. Sherry Burt-Kested, Environmental Services Manager
Freeport McMoRan, Inc., Chino Mine
PO Drawer 571
Tyrone, NM 88065

Re: Industrial Storm Water; SIC 1021; NPDES Compliance Evaluation Inspection; Freeport McMoRan, Inc. Chino Mine, NMR053259, April 13, 2016

Dear Ms. Burt-Kested,

Enclosed please find a copy of the report and check list for the referenced inspection that the New Mexico Environment Department (NMED) conducted at your facility on behalf of the U.S. Environmental Protection Agency (USEPA). This inspection report will be sent to the USEPA in Dallas for their review. These inspections are used by USEPA to determine compliance with the National Pollutant Discharge Elimination System (NPDES) permitting program in accordance with requirements of the federal Clean Water Act.

Introduction, treatment scheme, and problems noted during this inspection are discussed in the "Further Explanations" section of the inspection report.

You are encouraged to review the inspection report, required to correct any problems noted during the inspection, and advised to modify your operational and/or administrative procedures, as appropriate. If you have comments on or concerns with the basis for the findings in the NMED inspection report, please contact us (see the address below) in writing within 30 days from the date of this letter. Further, you are encouraged to notify in writing both the USEPA and NMED regarding modifications and compliance schedules at the addresses below:

Gladys Gooden-Jackson
US Environmental Protection Agency, Region VI
Enforcement Branch (6EN-WM)
1445 Ross Avenue
Dallas, Texas 75202-2733

Bruce Yurdin
New Mexico Environment Department
Surface Water Quality Bureau
Point Source Regulation Section
P.O. Box 5469
Santa Fe, New Mexico 87502

If you have any questions about this inspection report, please contact Sarah Holcomb at 505-827-2798 or at sarah.holcomb@state.nm.us.

Sincerely,

/s/ Bruce Yurdin

Bruce J. Yurdin
Program Manager
Point Source Regulation Section
Surface Water Quality Bureau

cc: Carol Peters-Wagnon, USEPA (6EN-WM) by e-mail
Gladys Gooden-Jackson, USEPA (6EN-WM) by e-mail
Racquel Douglas, USEPA (6EN-WC) by e- mail
Everett Spencer, USEPA (6EN-WM) by e-mail
NMED District 3, Michael Kesler, by e-mail
Kurt Vollbrecht, Manager, MECS, NMED GWQB, by email
Brad Reid, MECS, NMED GWQB, by email
David Mercer, MECS, NMED GWQB, by email
Holland Shepherd, Program Manager, Mining Act Reclamation Program, EMNRD, by email
Christian Krueger, FMI Tyrone Environmental Services, by email

Form Approved
OMB No. 2040-0003
Approval Expires 7-31-85

NPDES Compliance Inspection Report

Section A: National Data System Coding

1	Transaction Code	2		3	NPDES									11	12	yr/mo/day						17	18	Inspec. Type	19	Inspector	20	Fac Type
	N		5		N	M	R	0	5	3	2	5	9			1	6	0	4	1	3			~		S		2

Remarks

M	E	T	A	L		M	I	N	I	N	G		S	E	C	T	O	R		G								

Inspection Work Days		Facility Evaluation Rating		BI		QA		Reserved	
67	69	70	3	71	N	72	N	73	74	75	80

Section B: Facility Data

Name and Location of Facility Inspected *(For industrial users discharging to POTW, also include POTW name and NPDES permit number)*
Freeport McMoRan Inc., Chino Mine, Vanadium, Grant County, NM: From Silver City, take Hwy 180 east to Hwy 356 in Bayard. Head north on Hwy 356 to the Santa Rita Mine Rd. entrance.

Entry Time /Date
0800 hours / 4-13-16

Permit Effective Date
6-4-2015

Exit Time/Date
1720 hours / 4-13-16

Permit Expiration Date
6-4-2020

Name(s) of On-Site Representative(s)/Title(s)/Phone and Fax Number(s)
Ms. Sherry Burt-Kested, Manager, FMI Chino Environmental Services, 575-912-5927
Mr. Christian Krueger, FMI Chino Environmental Services, 575-912-5349

Other Facility Data

SIC 1021, 3299

GPS:
N. 32.80501°
W. -108.08568°

Name, Address of Responsible Official/Title/Phone and Fax Number
Ms. Sherry Burt-Kested, Environmental Services Manager, FMI Chino Mine
PO Box 10, Bayard, NM 88023

Contacted
Yes * No

Section C: Areas Evaluated During Inspection

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

S	**Permit**	N	**Flow Measurement**	S	**Operations & Maintenance**	N	**CSO/SSO**
S	**Records/Reports**	N	**Self-Monitoring Program**	N	**Sludge Handling/Disposal**	N	**Pollution Prevention**
S	**Facility Site Review**	N	**Compliance Schedules**	N	**Pretreatment**	N	**Multimedia**
S	**Effluent/Receiving Waters**	M	**Laboratory**	S	**Storm Water**	N	**Other:**

Section D: Summary of Findings/Comments (Attach additional sheets if necessary)

1. **The inspector arrived at the facility at approximately 0800 hours, accompanied by Mr. David Mercer and Mr. Brad Reid of the NMED GWQB, and after reviewing the site safety video, conducted an entrance interview with Ms. Sherry Burt-Kested and Mr. Christian Krueger of FMI Environmental Services for Chino Mine, where she made introductions, presented her credentials, and explained the purpose of the inspection. An exit interview was conducted on the same day with Ms. Burt-Kested and Mr. Krueger at approximately 1650 hours where she presented the preliminary findings of the inspection. Follow up materials were received from FMI the week of April 18th and have been incorporated into this report.**
2. **Please see checklist and appendices for further information.**

Name(s) and Signature(s) of Inspector(s)	**Agency/Office/Telephone/Fax**	**Date**
Sarah Holcomb ***/s/ Sarah Holcomb***	**505-827-2798**	**5-5-2016**
Signature of Management QA Reviewer	**Agency/Office/Phone and Fax Numbers**	**Date**
Bruce Yurdin ***/s/ Bruce Yurdin***	**505-827-2795**	**5-5-2016**

NPDES Industrial Storm Water Checklist (MSGP)

National Database Information		General	
Inspection Type	CEI	Inspector Name	Sarah Holcomb
NPDES ID Number	NMR053259	Telephone	505-827-2798
Inspection Date	4-13-16	Entry Time	0800 hours
Inspector Type *(circle one)*	EPA [State] EPA Oversight	Exit Time	1720 hours
Facility Sector/ SIC/Activity Code	Sector G & J SIC 1021, 3299	Signature	*/s/ Sarah Holcomb*

Facility Location Information				
Name/Location/ Mailing Address	Freeport McMoRan, Inc., Chino Mine 99 Santa Rita Mine Rd., Vanadium, NM 88023 PO Box 10, Bayard, NM 88023			
GPS Coordinates	Latitude	N. 32.80501°	Longitude	W -108.08568°
Receiving Water(s)	Hanover Creek, Whitewater Draw, Santa Rita Creek, Lampbright Draw, Cameron Creek, Apache Tejo, Bolton Draw			

Contact Information		
	Name(s)	Telephone
Name(s) and Role(s) of All Parties Meeting the Definition of Operator	Freeport McMoRan, Inc., Chino Mine T.G. McCauley, Inc. (limestone quarry)	
Facility Contact	Ms. Sherry Burt-Kested, Manager, FMI Chino Environmental Services Mr. Christian Krueger, FMI Chino Environmental Services Mr. Thomas McCauley, T.G. McCauley, Inc.	575-921-5927 575-921-5349 575-535-2341
Authorized Official(s)	No GM at this time	

Basic Permit Information			Basic SWPPP Information		
Permit Coverage	[Y]	N	SWPPP Prepared & Available	[Y]	N
Permit Type	[General]	Individual	SWPPP Contents Satisfactory	Y	[N]
Operational Date	1921		SWPPP Implementation Satisfactory	[Y]	N
NOI/Application Date	9-24-15		SWPPP Date	Sept 2015	
If applicable, is no exposure certification on file?	Y	N	*Intentionally left blank*		

NPDES Industrial Storm Water Checklist (MSGP)

SWPPP Review			
General			**Notes:**
Was the SWPPP completed prior to NOI submission?	Y	N	
Copy of the NOI and acknowledgment letter from EPA?	Y	N	
Copy of the permit language?	Y	N	
Have copies of inspection reports/all other documentation been retained as part of the SWPPP for 3 years from date permit coverage expires?	Y	N	
Does the SWPPP contain a signed/certified statement indicating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to precipitation, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii)? Applicable to: • Routine facility inspection (3.1.1) • Quarterly visual assessment (3.2.3) • Benchmark monitoring (6.2.1.3).	Y	N	N/A
Does the SWPPP include copies of relevant parts of other documents (e.g., SPCC) referenced in the SWPPP?	Y	N	SPCC and ERP are referred to in the SWPPP.
Does the SWPPP include documentation to support eligibility under the Endangered Species Act?	Y	N	The Chiricahua Leopard Frog is the species of concern for the Chino Mine, specifically in James Canyon.
Does the SWPPP include documentation to support eligibility under the Historic Preservation Act?	Y	N	
Does the SWPPP include documentation to support eligibility under NEPA (New Source)?	Y	N	N/A
Did all “operators” sign/certify the SWPPP?	Y	N	John Brack, former mine manager, signed on 3-7-2016.
Is the storm water pollution prevention team identified (name or title)?	Y	N	
Are the storm water pollution prevention team’s responsibilities identified?	Y	N	

NPDES Industrial Storm Water Checklist (MSGP)

Site Description			Notes:
SWPPP provides a description of the facility's industrial activities?	Y	N	
Is there a general location map (e.g., USGS quadrangle map) with enough detail to identify the location of the facility and all receiving waters for storm water discharges?	Y	N	
Is there a site specific site map?	Y	N	
Does the site map contain the size of the property in acres?	Y	N	
Does the site map contain the location and extent of significant structures and impervious surfaces?	Y	N	
Does the site map contain directions of storm water flow (indicated by arrows)?	Y	N	
Does the site map contain locations of all existing structural control measures?	Y	N	
Does the site map contain locations of all receiving waters in the immediate vicinity of the facility, indicating if any of the waters are impaired, and if so, whether the waters have TMDLs established for them?	Y	N	
Does the site map contain locations of all storm water conveyances including ditches, pipes and swales?	Y	N	
Does the site map contain locations of all potential pollutants and significant materials identified under Part 5.2.2?	Y	N	
Does the site map contain locations where significant spills or leaks identified under Part 5.2.3.3 have occurred?	Y	N	
Does the site map contain locations of all storm water monitoring points?	Y	N	
Does the site map contain locations of storm water inlets and outfalls, with a unique identification (e.g., 001, 002) for each outfall and if substantially identical?	Y	N	
Does the site map contain municipal separate storm sewers and where the facility discharges to them?	Y	N	N/A
Does the site map contain locations and descriptions of all non-storm water discharges?	Y	N	No non-stormwater discharges were observed during this inspection.

NPDES Industrial Storm Water Checklist (MSGP)

Site Description			Notes:
Does the site map contain locations of the following activities where these activities are exposed to precipitation? • Fueling stations • Vehicle and equipment maintenance and/or cleaning areas • Loading/unloading areas • Locations used for the treatment, storage or disposal of wastes • Liquid storage tanks • Processing and storage areas • Immediate access roads and rail lines used or travelled by carriers of raw materials, manufactured products, waste materials, or by-products used or created by the facility • Transfer areas for substances in bulk • Machinery	[Y]	N	
Does the site map contain locations and sources of run-on to the site from adjacent property that contains significant quantities of pollutants?	Y	N	N/A
Does the SWPPP document areas at the facility where industrial materials or activities are exposed to storm water and from which allowable non-storm water discharges are released?	[Y]	N	
Does the SWPPP include a list of the industrial activities exposed to storm water (e.g., material storage; equipment fueling, maintenance, and cleaning; cutting steel beams)?	[Y]	N	
Does the SWPPP include a list of pollutants and/or pollutant constituents associated with each identified activity?	[Y]	N	
Does the SWPPP include documentation of where spills and leaks occurred for three years prior to the preparation of the SWPPP?	[Y]	N	On 3-18-2013, there was a spill from the Whitewater Leach Collection system. The spill did travel out to Whitewater Creek but was picked up.

NPDES Industrial Storm Water Checklist (MSGP)

Site Description			Notes:
Does the SWPPP include a non-storm water discharge evaluation in the SWPPP? Does it include: • Date • Description of evaluation criteria • List of the outfalls or onsite drainage points directly observed • Different types of non-storm water discharges and source locations • Actions taken such as a list of control measures for elimination.	Y	[N]	A stand-alone non-stormwater discharge evaluation had not been completed at the time of this inspection. Permittee representatives indicated that this is routinely done with each quarterly inspection.
Does salt storage occur at this facility?	Y	[N]	
Does the SWPPP include a summary of storm water sampling data for the previous permit term?	[Y]	N	

Controls to Reduce Pollutants			Notes:
Does the SWPPP include documentation of the location and type of control measures at the facility to comply with the requirements in Part 2?	[Y]	N	
Does the SWPPP include documentation that selection and design of control measures were based on a consideration of the practices and procedures in Part 2.1.1?	[Y]	N	
Does the SWPPP include measures to minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings?	[Y]	N	SWPPP discusses preventing runoff of contaminated flows, and restricting activity to areas that do not drain offsite.
Does the SWPPP include good housekeeping measures (e.g., keeping all exposed areas that are potential sources of pollutants clean, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers)?	[Y]	N	Material storage not exposed to the elements, routine garbage pickup, security to prevent unauthorized entry to the mine, regular inspections of tanks/drums, removal of non-essential products and waste, and routine cleaning and maintenance of impervious areas. Paving is also conducted where appropriate.

Controls to Reduce Pollutants			Notes:
Does the SWPPP include a schedule for pickup and disposal of wastes and routine inspections of tanks and drums?	Y	[N]	
Does the SWPPP include preventative maintenance procedures, including regular inspections, testing, maintenance, and repair of all industrial equipment and systems, and control measures, and back-up practices should a runoff event occur while a control measure is off-line?	[Y]	N	PM exists for SX/EW pumps, reservoirs and ponds; Hydromet maintenance department conducts daily routine inspections.
Does the SWPPP include a schedule for preventative maintenance procedures?	Y	[N]	Permittee representatives indicate that work order system shows the PM schedule – this should be referenced in the SWPPP.
Does the SWPPP include procedures for minimizing the potential for leaks, spills and other releases that may be exposed to storm water and develop plans for effective response to such spills if or when they occur?	[Y]	N	
Does the facility implement procedures for plainly labeling containers (e.g., "Used Oil," "Spent Solvents," "Fertilizers and Pesticides," etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur?	[Y]	N	
Does the facility implement preventative measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling?	Y	[N]	Secondary containment needed for flocculent totes stored at the filter plant. Lime storage at the filter plant also needs to be moved or covered.
Does the facility implement procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases?	[Y]	N	
Does the facility train employees who may cause, detect, or respond to a spill or leak in these procedures and have necessary spill response equipment available?	[Y]	N	
Does the facility document and follow procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies?	[Y]	N	NMED SWQB must be added to call list for spills or emergencies that affect surface water.

NPDES Industrial Storm Water Checklist (MSGP)

Controls to Reduce Pollutants			Notes:
Does the SWPPP document erosion and sediment controls?	Y	N	
Does the facility stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants?	Y	N	
Does the facility place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants?	Y	N	
If the facility stores salt at this facility, are the piles enclosed or covered? Does the facility implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile?	Y	N	N/A
Employee Training – is there a schedule for regular (at least annually) employee training?	Y	N	
Does training cover both the specific control measures used to achieve the effluent limits in Part 2 and monitoring, inspection, planning, reporting, and documentation requirements in other parts of the permit?	Y	N	
Does the facility ensure that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged?	Y	N	
Does the facility minimize generation of dust and off-site tracking of raw, final, or waste materials?	Y	N	Water is applied to roads for dust control as needed (daily or more than daily).
Has the facility eliminated non-storm water discharges not authorized by an NPDES permit?	Y	N	

Notes on SWPPP Review

Site Description:

The Chino Mine is an active copper mining facility that covers 10,571 acres of active and reclaimed mine. According to resources from the NM Bureau of Geology and Mineral Resources (https://geoinfo.nmt.edu/tour/landmarks/chino_mine/home.html), open pit mining started in 1910. The mine was previously owned by Phelps Dodge and was purchased by Freeport McMoRan, Inc. in 2007. The mine consists of several active open pits, leach and waste storage stockpiles, maintenance facilities, the Solution Extraction/Electrowinning (SX/EW) plant, the Ivanhoe concentrator, the pipeline corridor, tailing ponds and a limestone quarry. Inactive facilities include the Hurley smelter, Lake One, tailing ponds 1, 2, 4, B, C and parts of 6W and 6E. The Groundhog Mine is also inactive.

The mine stockpiles copper ore into leach piles, over which sulfuric acid is applied to leach the copper out of the oxide ores. The resulting solution (copper oxide) is then sent to the facility's solution extraction/electrowinning plant (SX/EW) where the copper is extracted from solution by using organic chemical reagents (i.e. kerosene, among others) and then plates the copper on sheets using an electric current. The denuded solution is reapplied to the facility's leach piles. Stormwater runoff from the leach piles is incorporated into the facility's pregnant leach solution (PLS) pipeline to the SX/EW facility, which according to permittee representatives can handle the current flow (~14-16,000 gpm) plus the flow from the 100 year/24 hour storm event, which is calculated at 56 acre feet.

The mine previously had coverage under an individual NPDES permit (NM0020435) for discharges of mine drainage and excess storm water runoff from copper ore leaching retention ponds at the Ivanhoe concentrator and the Lampbright leach storage area. The permit was terminated at FMI's request in 2011. 100 year/24 hour stormwater modeling results obtained from the NMED Ground Water Quality Bureau (Appendix A) indicate that for the Lampbright area covered under NMED GWQB DP 376, 192 acre feet of runoff would be generated from that size storm (with the disturbance ratios calculated at the time in 2015). Specifically, looking at Reservoir 8, the calculation shows that the total volume of runoff from the subject storm would be 56 acre/feet, but the containment capacity is 26.6 acre/feet. While onsite, permittee representatives indicated that there are pumping systems and backup power systems in place to ensure that a discharge does not occur. A discharge from this particular location would not be covered under this permit (MSGP) because it is impacted stormwater subject to the requirements of 40 CFR Part 440. The same is true of discharges that would go to the former Outfall 001 under the terminated IP (Reservoir 17). The stormwater evaluation indicated that there is 8.6 acre/feet of storage at this location, but 46.8 acre/feet of runoff would be generated from this size storm. Similar pumping systems are in place at this location, along with backup power to prevent a discharge.

Monitoring data collected over the term of the 2008 MSGP show that there were exceedances of the benchmark standard for copper and iron at outfall SWSS-1. Consequently, samples were taken for these two metals for the next few sampling quarters. The inspector could not determine from the SWPPP how Chino personnel determine the applicable hardness value for the mine's discharges. According to SWQB Monitoring and Assessment Section data from 2011, hardness at Whitewater Creek (downstream of the mine's discharges) ranged from 33 mg/L to 44 mg/L dissolved hardness. Chino's data show a hardness of 270 mg/L. Data is included with this report as Attachment B.

Chino currently obtains permit coverage for the adjacent limestone quarry under Sector J. The quarry is owned by FMI Chino, but is operated by McCauley Enterprises, Inc., which also sells mined material to other parties. In Part 1.2.1 of the permit, it requires that the operator of the facility obtain permit coverage. Currently McCauley does not have coverage under the 2015 MSGP. Once they obtain coverage under the permit, McCauley may sign on to Chino's existing SWPPP in order to avoid duplication of effort.

Notes on SWPPP Review

Site Description:

The sampling location for the quarry (SWLQ-3) had been moved from its previous location (closer to the quarry) to the top of the dam located in an unnamed tributary to Apache Tejo. By locating the sampling location within the receiving waterbody, dilution of the flow is present and could alter the results. Sampling locations must be located outside of the receiving waterbody.

Currently the only BMP at the quarry is a perimeter berm to contain runoff (please see Photo #13). This berm was eroded at the time of this inspection. Sampling results from the 2008 MSGP show that TSS has been an issue from the site. The permittee should evaluate the type of berm to see if there is a better available BMP that will control TSS from the site.

NPDES Industrial Storm Water Checklist (MSGP)

Inspections (Part 4)			
General			**Notes:**
Routine Facility Inspections			
Are routine facility inspections conducted at least quarterly while facility operating?	[Y]	N	
Are inspections documented, including: • Date and time • Name and signature of inspector • Weather information and a description of discharge occurring at the time of the inspection • Previously unidentified discharges from site • Control measures needing maintenance or repairs • Failed control measures that need replacement • Incidents of noncompliance observed • Additional control measures needed.	[Y]	N	
Exceptions, including (see 3.1.1): • Inactive and unstaffed sites	Y	N	N/A
Quarterly Visual Assessment			
Are quarterly visual assessments conducted?	Y	[N]	Permittee has not had an opportunity to collect runoff yet in accordance with the 2015 MSGP.
Does the assessment consist of a sample collected: • Within the first 30 minutes of discharge • On discharges that occur at least 72 hours (3 days) from the previous discharge • Collected in a clean, clear glass or plastic container.	[Y]	N	SWPPP indicates that this is the procedure that will be followed when samples are collected.

Inspections			
Are assessments documented, including: • Sample location • Sample collection date/time & visual assessment date/time • Personnel collecting sample & performing assessment and their signature • Nature of the discharge (runoff or snowmelt) • Results of observations (including color, odor, clarity, floating solids, settled solids, suspended solids, foam, oil sheen and other obvious indicators) • Probable sources of contamination • If applicable, reason for not taking samples within 1st 30 minutes.	[Y]	N	Sampling form includes all of these fields.
Exceptions, including (see 3.2.3): • Adverse weather conditions • Climates with irregular storm water runoff • Areas subject to snow • Substantially identical outfalls (per 5.2.5.3) • Inactive and unstaffed sites.	Y	N	Permittee will be collecting samples in accordance with the monsoon season, as permitted under the climates with irregular storm water runoff exception.

Monitoring (Part 6)			
General			**Notes:**
Does the SWPPP contain a procedure for conducting sector (and co-located) specific benchmark monitoring?	[Y]	N	
Does the SWPPP contain procedures for conducting effluent limitations guidelines monitoring?	Y	N	N/A
Does the SWPPP contain a procedure for other monitoring (state or tribal specific; impaired waters; other as required)	Y	N	N/A
Are samples analyzed in accordance with 40 CFR Part 136 methods?	Y	N	
Benchmark Monitoring			
Does the monitoring consist of a sample collected: • Within the first 30 minutes of discharge • On discharges that occur at least 72 hours (3 days) from the previous	[Y]	N	

NPDES Industrial Storm Water Checklist (MSGP)

discharge • Document the date and duration (in hours) of the rainfall event, rainfall total (snow - date only) for that rainfall • Prior to commingling.			
Is monitoring conducted during each of the first four full quarterly (calendar) monitoring periods following permit coverage?	Y	N	Permittee will monitor during the monsoon period from June to September.
Is the average of the first four quarterly samples < the parameter benchmark?	Y	N	Permittee has not yet sampled this permit term.
Is the average of the first four quarterly samples > the parameter benchmark? • Make the necessary modifications • Continue quarterly monitoring • Determine and document that no further pollutant reductions are technologically available and economically practicable and achievable, continue monitoring once per year, notify EPA • Natural background pollutant level documentation	Y	N	Permittee has not yet sampled this permit term.
Exceptions, including (see 6.1.5, 6.1.6 & 6.2.1.3): • Adverse weather conditions • Climates with irregular storm water runoff • Snowmelt • Substantially identical outfalls (per 5.1.5.2) • Inactive and unstaffed sites.	Y	N	Permittee will be monitoring according to the irregular stormwater runoff exception. (June to September)
Effluent Limitations Monitoring (Sector A, C, D, E, J, K, L, O, S)			N/A
Sampled once per year?	Y	N	
Follow-up requirements if discharge exceeds effluent limit (see 6.2.2.3)?	Y	N	
Water Quality Based Effluent Limitations			Notes:
Does the facility discharge to water quality impaired waters?	Y	N	
If TMDL exists, does the facility need to monitor?	Y	N	N/A
Is the facility monitoring all 303(d) pollutants in the first surface water to which they discharge?	Y	N	N/A
Does the facility discharge to a CERCLA site?	Y	N	
Additional monitoring required by EPA?	Y	N	

Reporting (Part 7) Information must be submitted using NeT for NOI, NEC, NOT and Annual Report.			DMRs must be submitted using NetDMR
General			**Notes:**
Is facility a new discharger or new source to water quality impaired waters? Has the facility submitted this information to EPA Region 6?	Y	[N]	
If there was a facility exceedance under numeric effluent limitations, was a report submitted to EPA within 30 days?	Y	N	N/A
Did the facility submit benchmark or ELG monitoring through NetDMR?	Y	N	N/A
Did the facility submit Annual Reports to EPA through NeT? (Due January 30 of each year)	[Y]	N	
If follow up monitoring per 6.2.2.3 exceeds a numeric limit, did the facility submit an Exceedance Report (paper) to EPA Region 6 in addition to reporting the monitoring data through NetDMR?	Y	N	N/A

SWPPP Implementation	
Measures to minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff	*(e.g., use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away; locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems; clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants; use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible; use spill/overflow protection equipment; drain fluids from equipment and vehicles prior to on-site storage or disposal; perform all cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray; and ensure that all washwater drains to a proper collection system*) Where possible, materials are covered and kept out of exposure (i.e. maintenance shops)
Good Housekeeping	*(e.g., keeping all exposed areas that are potential sources of pollutants clean, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers)* During this inspection, it appeared that labeling occurs consistently. Materials appeared to be orderly and stored correctly.
Preventative maintenance	*(e.g., regular inspections, testing, maintenance, and repair of all industrial equipment and systems, and control measures, and back-up practices should a runoff event occur while a control measure is off-line)* Regular equipment and oversight inspections occur. This is tagged through a work order system, which should be referenced in the SWPPP for documentation purposes.

SWPPP Implementation	
Spill Prevention and Response	*(e.g., minimizing the potential for leaks, spills and other releases that may be exposed to storm water and develop plans for effective response to such spills if or when they occur)* SPCC plan in place and referenced in the SWPPP. Spill response – spill kits are available.
Erosion and Sediment Controls	*(e.g., stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, flow velocity dissipation devices at discharge locations and within outfall channels)* Tackifier is applied on the slopes of the mine. Reclamation keeps monitoring reclaimed sites to check for erosion issues. Dam safety monitors erosion at the tailings dam.

Management of Runoff	*(e.g., divert, infiltrate, reuse, contain, or otherwise reduce storm water runoff, to minimize pollutants in discharges)* Most areas drain internally to the mine in the north. Pumping systems are discussed in the narrative for the Lampbright and Reservoir 17 areas.
Salt Storage Piles	*(e.g., enclose or cover piles appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile)* No salt storage occurs at the mine.

SWPPP Implementation	
Waste, Garbage and Floatable Debris	*(e.g., keep exposed areas free of such materials or by intercepting them before they are discharged)* No trash or litter issues were observed at the time of this inspection.
Evidence of non-storm water discharges	No non-stormwater discharges were observed on the date of this inspection.
Dust Generation and Vehicle Tracking of Industrial Materials	*(minimize generation of dust and off-site tracking of raw, final, or waste materials)* No vehicle tracking issues were noted at the time of this inspection.

Official Photograph Log
Photo # 1

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1034 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: Lampbright stockpiles and retention basins.		

Official Photograph Log
Photo # 2

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1034 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: Discharge structure from the Lampbright retention basins. Water would overtop the road and then be discharged into the channel behind the truck in the photo. The channel is equipped with a French drain system, where the flow is routed to the Dam #8 seep collection system.		

Official Photograph Log
Photo # 3

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1045 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: Dam #8 seep collection system. The pipe directed down the side of the hill would route flows from the channel seen in Photo #2 (via a French drain) to this area for pumping back to the retention basins behind Dam #8. Routine inspections are conducted by the Hydromet staff daily. The pump is equipped with an audible and visual alarm but there is no callout to a central dispatch location.		

Official Photograph Log
Photo # 4

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1103 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: Lampbright stockpiles and French drain system located prior to discharge to Lampbright Draw.		

Official Photograph Log
Photo # 5 & 6

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1139 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: Overview of the Santa Rita Pit.		

Official Photograph Log
Photo # 7

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1307 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: Retention basin below the Ivanhoe concentrator. (Former Outfall 002 under terminated NM0020435)		

Official Photograph Log
Photo # 8

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1435 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: Stormwater outfall SWTP-3 at the southern end of the tailings ponds (south of the only active tailing facility).		

Official Photograph Log
Photo # 9

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1307 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: Freestanding totes of flocculent located at the filter plant. No secondary containment was present.		

Official Photograph Log
Photo # 10

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1507 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: Outdoor lime storage at the filter plant. No cover was available for this area.		

Official Photograph Log
Photo # 11

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1534 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: Looking down at acid storage facilities from the slag pile at the former smelter in Hurley. Retention basins were just rebuilt with new acid resistant materials.		

Official Photograph Log
Photo # 12

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1608 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: SWLQ-3, sampling location for the limestone quarry discharge under Sector J. Sampling location was in-stream and could be diluted by upstream flows. Recommendation was made to move the sample location back upstream to previous location and focus on BMP implementation at the quarry area. Photo was taken standing on top of berm in the channel.		

Official Photograph Log
Photo # 13

Photographer: Christian Krueger, FMI	Date: 4-13-16	Time: 1620 hours
City/County: Hurley, Grant County		
Location: Freeport McMoRan, Inc., Chino Mine		
Subject: Berms needing repair at the east end of the limestone quarry. Arrow points to eroded berms.		

Appendix A

ATTACHMENT D-2
100-YEAR, 24-HOUR STORMWATER CALCULATIONS
(Telesto Solutions, Inc.)

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Job No.: 200364 Client: Freeport-McMoRan Chino Mines Company Page 1 of 10
Task: NMA DP Renewal Computed By: W. Niccoli Date: 10/08/2015
Checked By: J. Davis Date: 10/08/2015

Problem Statement:

Chino Mine s Company (Chino) needs a stormwater handling / emergency response plan for a 100-year, 24-hour storm (design storm). The National Resources Conservation Services (NRCS) method (formerly the Soil Conservation Service [SCS] method) can be used to estimate the total runoff for each catchment area during the design storm. These estimates will serve as a guide to assess designs of stormwater retention basins within the Chino Mine.

The NRCS method uses an empirical approach to estimate the storage capacity of a specific catchment and provide an estimate of runoff. The CN is an empirical number representing the ability of a catchment to produce runoff, with a higher CN representing a higher capacity to produce runoff. The Chino specific CN's were agreed upon between the regulatory agencies and Chino.

Objectives:

The main objectives of this investigation are to estimate runoff volumes from the design storm (100-year, 24-hour) within each individual Discharge Permit (DP) area to determine if there is adequate retention capacity in stormwater collection ponds on site.

Approach

The estimation of total runoff volume during the design storm event was carried out in a stepwise approach due to the varying catchment sizes and fraction of disturbed/undisturbed areas. The steps taken to determine the total runoff volume are as follows:

1. Determine contributing areas from each catchment and sub-catchment (DP areas)
2. Estimate portion of each sub-catchment that is disturbed and undisturbed
3. Calculate the weighted average CN based on proportions in step 2
4. Estimate the 100-yr, 24-hour precipitation for the sub-catchment
5. Calculate total runoff in inches using NRCS method for each sub-catchment
6. Sum all sub-catchments within larger DP catchment

TELESTO SOLUTIONS·INCORPORATED

Job No.: 200364 Client: Freeport-McMoRan Chino Mines Company Page 2 of 10

Task: NMA DP Renewal Computed By: W. Niccoli Date: 10/08/2015

Checked By: J. Davis Date: 10/08/2015

Data and Assumptions:

- NOAA Atlas Volume 14 (Figure 1)
- CN for disturbed areas=80
- CN for undisturbed areas= 71
- Rainfall occurs evenly across entire sub-catchment
- 2014 fly-over survey (2 ft. contour interval)
- 2014 fly-over survey (high resolution aerial photographic image)

Calculations:

1. Contributing areas described in Figures 2, 3, and 4
2. Disturbed and undisturbed percentages were determined using visual analysis of aerial photography of the region. Anywhere showing obvious signs of vegetation was considered to be undisturbed, while the remainder was considered to be disturbed. The area weighted CN for each area classified as disturbed or undisturbed was used to calculate the portion of contributing runoff from each area to the total runoff volume. Each sub-catchment was divided into disturbed and undisturbed areas based on visual analysis of aerial photos and are summarized in Table 1.
3. Weighted CN calculated as follows:

$$CN_{weighted} = \frac{Area_{undisturbed} CN_{undisturbed} + Area_{disturbed} CN_{disturbed}}{Area_{total}}$$

4. Precipitation values vary across the DP areas based on the center of each DP catchment, and values retrieved from the National Oceanic and Atmospheric Administration (NOAA) database (example location shown in Figure 1).

Figure1 – Sample location indicated by red cross-hairs for precipitation data from NOAA

5. The calculation of rainfall runoff (Q)for the design storm was carried out as outlined in Equation 1, and is calculated as inches of runoff. The calculation of rainfall excess was repeated for each sub-catchment.

$$Q = \frac{(P - 0.2 * S)^2}{P + 0.8 * S}$$ **Equation 1**

Where
P = Volume of rainfall for design storm (inches)
Q =Volume of runoff (inches)
S =Maximum retention (inches), as calculated by Equation 2

$$S = \frac{1000}{CN} - 10$$ **Equation 2**

The total runoff volume, in acre-feet, was then determined by converting the calculated Q from Equation 1 to units of feet, and multiplying the result by the respective disturbed and undisturbed areas (acres) for each sub-catchment.

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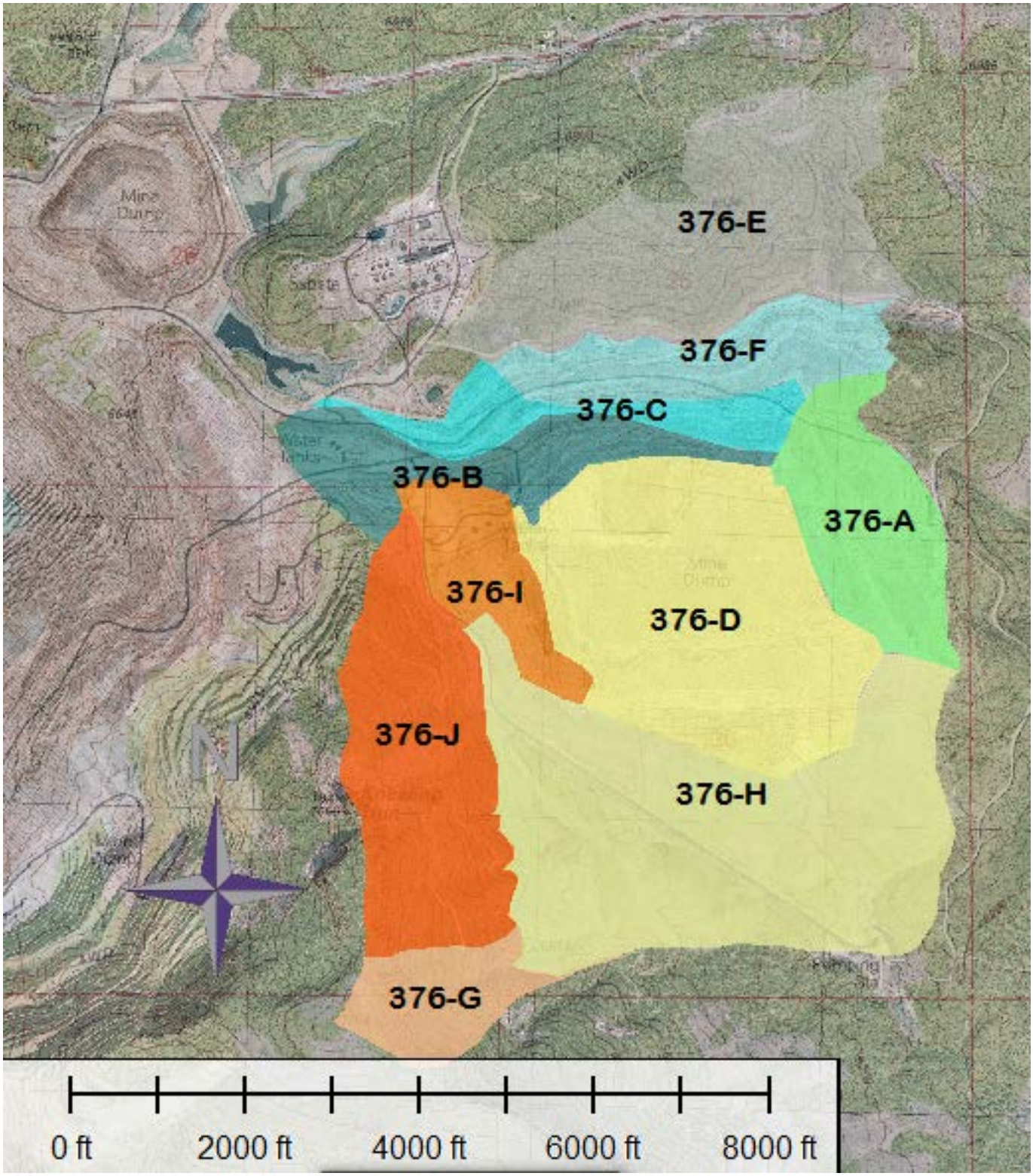
Job No.: 200364 Client: Freeport-McMoRan Chino Mines Company Page 4 of 10

Task: NMA DP Renewal Computed By: W. Niccoli Date: 10/08/2015

Checked By: J. Davis Date: 10/08/2015

Figure 2 DP 376 Sub-Basin Areas



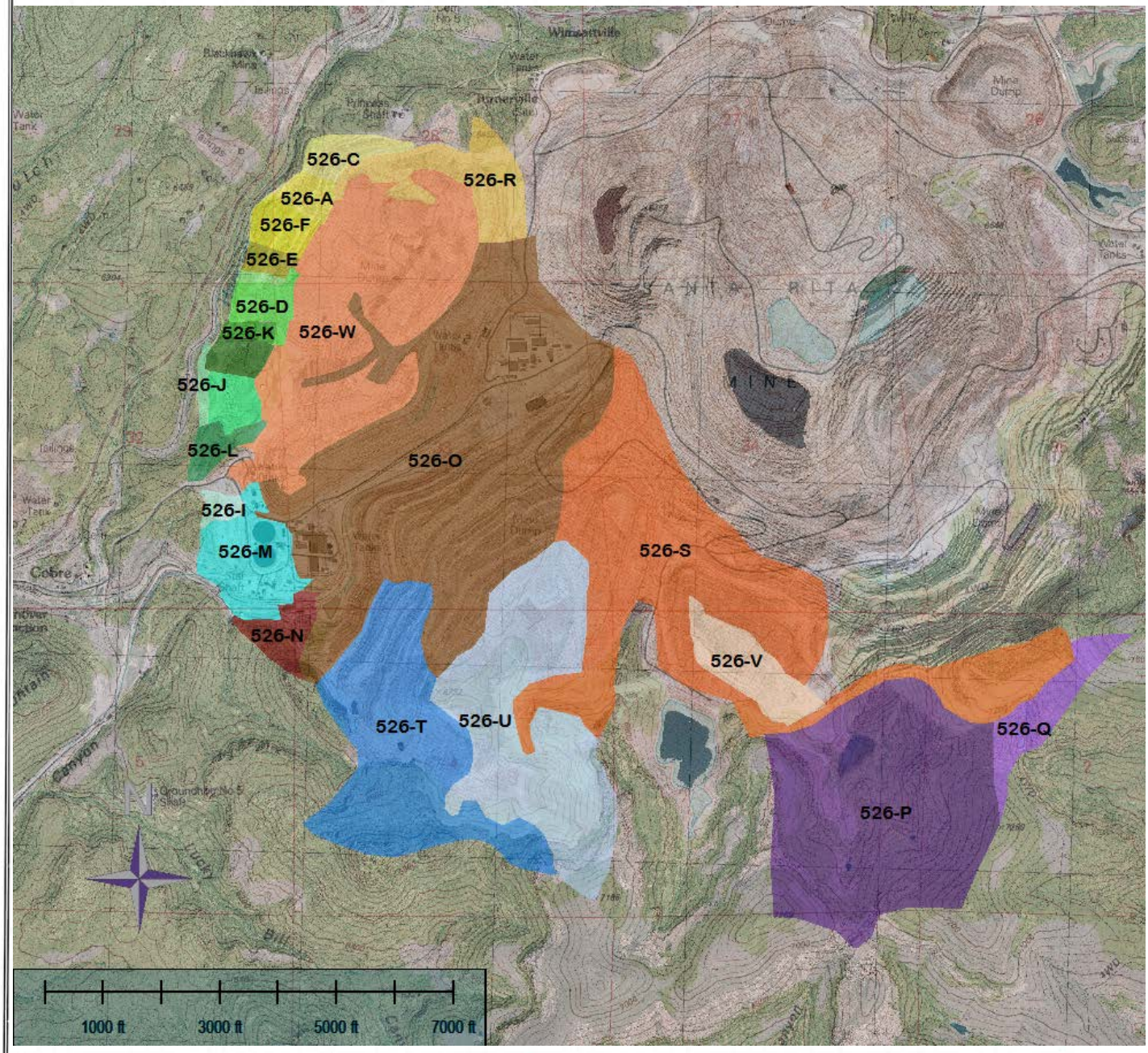
TELESTO SOLUTIONS • INCORPORATED

Job No.: 200364 Client: Freeport-McMoRan Chino Mines Company Page 5 of 10

Task: NMA DP Renewal Computed By: W. Niccoli Date: 10/08/2015

Checked By: J. Davis Date: 10/08/2015

Figure 3 DP 526 Sub-Basin Areas



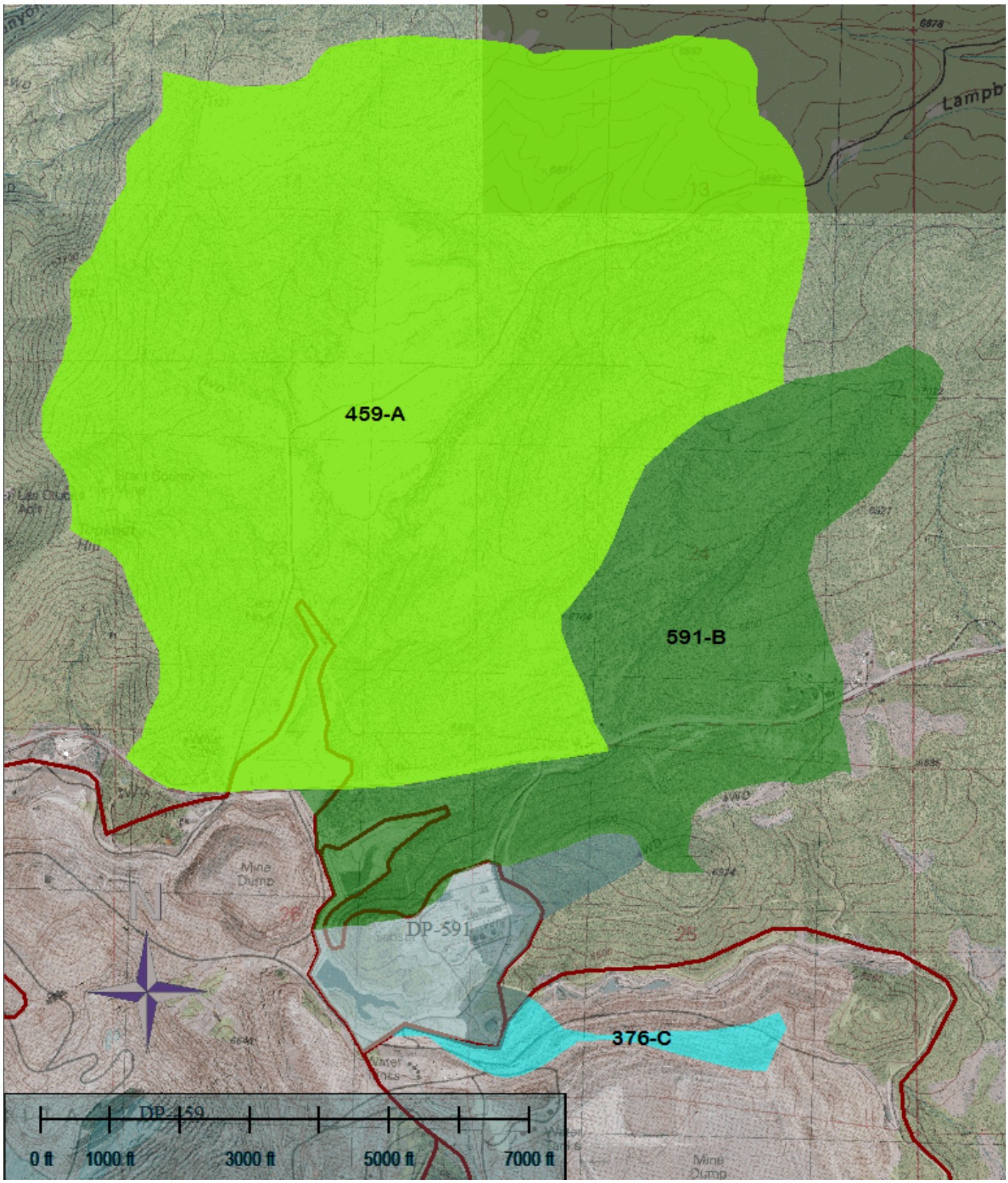
TELESTO SOLUTIONS • INCORPORATED

Job No.: 200364 Client: Freeport-McMoRan Chino Mines Company Page 6 of 10

Task: NMA DP Renewal Computed By: W. Niccoli Date: 10/08/2015

Checked By: J. Davis Date: 10/08/2015

Figure 4 DP 591 and DP 459 Sub-Basin Areas



TELESTO SOLUTIONS • INCORPORATED

Job No.: 200364 Client: Freeport-McMoRan Chino Mines Company Page 7 of 10

Task: NMA DP Renewal Computed By: W. Niccoli Date: 10/08/2015

Checked By: J. Davis Date: 10/08/2015

Table 1 Summary of sub-basin areas and disturbed/undisturbed fraction from: R:\Chino\DP-Renewals\Calculations\DP Areas and Stormflow\ 201510917 - SCS runoff volume 24 hour 100 year storm.xlsx

Discharge Permit	Sub-Basin	Total Area (acres)	Estimated Fraction Undisturbed	Estimated Fraction Disturbed	Weighted Average CN
376	376-A	94.0	10%	90%	79.1
	376-B	77.0	0%	100%	80.0
	376-C	49.6	0%	100%	80.0
	376-D	237.5	0%	100%	80.0
	376-E	205.2	100%	0%	71.0
	376-F	77.5	10%	90%	79.1
	376-G	52.1	100%	0%	71.0
	376-H	312.7	5%	95%	79.6
	376-I	55.3	0%	100%	80.0
	376-J	157.2	100%	0%	71.0
526	526-A	13.1	4%	96%	79.7
	526-B	17.6	27%	73%	77.6
	526-C	19.9	7%	93%	79.4
	526-D	18.8	12%	88%	78.9
	526-E	8.7	0%	100%	80.0
	526-F	18.7	19%	81%	78.3
	526-G	3.0	0%	100%	80.0
	526-H	14.3	17%	83%	78.5
	526-I	7.3	40%	60%	76.4
	526-J	4.8	90%	10%	71.9
	526-K	6.2	16%	84%	78.5
	526-L	15.1	75%	25%	73.3
	526-M	59.4	25%	75%	77.8
	526-N	23.6	47%	53%	75.8
	526-O	532.9	0%	100%	80.0
	526-P	310.2	86%	14%	72.3
	526-Q	41.4	100%	0%	71.0
	526-R	63.4	9%	91%	79.2
	526-S	388.9	6%	94%	79.4
	526-T	209.8	48%	52%	75.7
	526-U	231.4	0%	100%	80.0
	526-V	46.6	0%	100%	80.0
	526-W	260.3	0%	100%	80.0
591	591-A	111.4	60%	40%	74.6
	376-C	686.8	0%	100%	80.0
	591-B	637.2	96%	4%	71.3
	591-C	96.2	20%	80%	78.2
459	459-A	2008.5	0.9	0.1	71.9

TELESTO SOLUTIONS·INCORPORATED

Job No.: 200364 Client: Freeport-McMoRan Chino Mines Company Page 8 of 10

Task: NMA DP Renewal Computed By: W. Niccoli Date: 10/08/2015

Checked By: J. Davis Date: 10/08/2015

Results:

The results of the calculation process are presented in Table 2 for each discharge permit area. Note that some sub-basins within a discharge permit area may report outside of the discharge permit area to facilities covered under a different discharge permit (e.g., some stormwater originates in DP 526 by reports to the Santa Rita Open Pit)

Table 2 Runoff volume estimations for Chino Containments, NRCS method.

Discharge Permit	Containment	Precipitation (inches)	Volume of Runoff Disturbed Area	Volume of Runoff Undisturbed Area	Total Volume of Runoff (acre-ft)	Total Volume of DP Runoff
376	Lampbright East Sump	3.9	1.0	13.8	14.8	192
	Estrella Pit	3.9	-	12.6	12.6	
	Fleming Pond	3.9	-	8.1	8.1	
	Retained on Main and South Lampbright Leach Stockpiles	3.9	-	38.8	38.8	
	Diversion around North Lampbright	3.9	22.7	-	22.7	
	Lampbright Sumps #1 -#4	3.9	0.9	11.4	12.2	
	Reservoir 8	3.9	7.5	48.5	56.0	
	Unnamed Sediment Basin West of Main Lampbright Leach Stockpile	3.9	17.4	9.0	26.4	
526	Dam 10	3.8	0.1	2.0	2.0	341
	Dam 11	3.8	0.5	2.0	2.5	
	Dam 12	3.8	0.1	2.9	3.1	
	Dam 13	3.8	0.2	2.6	2.9	
	Dam 14-1	3.8	-	1.4	1.4	
	Dam 14-2	3.8	0.4	2.4	2.8	
	Dam 14-3	3.8	-	0.5	0.5	
	Dam 14	3.8	0.3	1.9	2.1	
	Dam 15	3.8	0.3	0.7	1.0	
	Dam 18	3.8	0.5	0.1	0.5	
	Dam 19	3.8	0.1	0.8	0.9	
	Dam 20	3.8	1.2	0.6	1.8	
	Reservoir 17	3.8	1.6	7.1	8.6	
	Reservoir 2	3.8	1.2	2.0	3.2	
	Reservoir 4A	3.8	-	84.5	84.5	
	Reservoir 9	3.8	28.4	7.0	35.4	
	Rustler Canyon Containment	3.8	4.4	-	4.4	
	Santa Rita Open Pit	3.8	3.1	67.0	70.2	
	New York Margin	3.8	10.7	17.4	28.1	
	South Stockpile +STS2 (Retained)	3.8	-	36.7	36.7	
	Upper South Stockpile (Retained)	3.8	-	7.4	7.4	
	West Stockpile (Retained)	3.8	-	41.3	41.3	
591	Fleming Pond	3.9	4.1	12.1	16.3	103.1
	Reservoir 6	3.9	68.1	3.9	72.0	
	Reservoir 7	3.9	2.1	12.7	14.8	
459	Reservoir 5	3.9	200.8	32.9	233.7	233.7

TELESTO SOLUTIONS·INCORPORATED

Job No.: 200364 Client: Freeport-McMoRan Chino Mines Company Page 9 of 10

Task: NMA DP Renewal Computed By: W. Niccoli Date: 10/08/2015

Checked By: J. Davis Date: 10/08/2015

Results con'd:

Table 3 documents the estimated containment capacity and the anticipated volume generated from the design storm

Table 3 Containment Capacity Comparison

Discharge Permit	Containment	Total Volume of Runoff (acre-ft)	Containment Capacity (acre-ft)	Source of Containment Capacity
376	Reservoir 8	56.0	26.6	Permit and contours
	Lampbright East Sump	14.8	5.3	Assume 10' deep average end area to vertical dam.
	Retained on Main and South Lampbright Leach Stockpiles	38.8	278	Top surface x 1 foot deep
	Lampbright Sumps #1 -#4	12.2	150	Assume 15 acres x 10 foot deep
	Unnamed Sediment Basin West of Main Lampbright Leach Stockpile	26.4	25	Topography
526	Dam 10	2.0	2.58	Permit (Table C-1)
	Dam 11	2.5	2.8	Permit (Table C-1)
	Dam 12	3.1	0.03	Permit (Table C-1)
	Dam 13	2.9	1	Permit (Table C-1)
	Dam 14-1	1.4	0.03	Permit (Table C-1)
	Dam 14-2	2.8	0.03	Permit (Table C-1)
	Dam 14-3	0.5	0.015	Permit (Table C-1)
	Dam 14	2.1	4.7	Permit (Table C-1)
	Dam 15	1.0	0.03	Permit (Table C-1)
	Dam 18	0.5	0.5	Permit (Table C-1)
	Dam 19	0.9	0.5	Permit (Table C-1)
	Dam 20	1.8	0.03	Permit (Table C-1)
	Hanover Dams (sum of above)	**21.6**	**12.25**	Permit (Table C-1)
	Reservoir 17	8.6	46.8	Permit (Table C-1)
	Reservoir 2	3.2	3.5	Permit (Table C-1)
	Reservoir 4A	84.5	46	Permit (Table C-1)
	Reservoir 9	35.4	47	Permit (Table C-1)
	Rustler Canyon Containment	4.4	4	Permit (Table C-1)
	New York Margin	72.1	160	20' deep x area
	South Stockpile +STS2 (Retained)	36.7	184	top surface x 1 foot deep
	Upper South Stockpile (Retained)	7.4	47	top surface x 1 foot deep
	West Stockpile (Retained)	41.3	260	top surface x 1 foot deep
591	Fleming Pond	104.6	8.7	Topography
	Reservoir 6	72.0	285	Permit (Table C-1)
	Reservoir 7	14.8	252	Permit (Table C-1)
459	Reservoir 5	233.7	233	Permit (Table C-1)

TELESTO SOLUTIONS • INCORPORATED

Job No.: 200364 Client: Freeport-McMoRan Chino Mines Company Page 10 of 10

Task: NMA DP Renewal Computed By: W. Niccoli Date: 10/08/2015

Checked By: J. Davis Date: 10/08/2015

Discussion and Recommendations:

In estimating the quantity of runoff resulting from rainfall for each DP, several assumptions were required. The results show that the largest contributing factors to runoff volume from each catchment were the fraction of disturbed versus undisturbed areas, as well as the overall size of the contributing sub-catchments, as would be expected. Because runoff is higher for disturbed areas, there is the potential for total estimated runoff volumes to increase as the mine development continues. As more land becomes disturbed, it is anticipated that the runoff volumes will increase due to the increased area of land having lower permeability and water storage capacity than the undisturbed conditions present previously.

It should be noted that the NRCS method is an empirical method, and as such, is not calibrated to site specific conditions. Although the CN assigned to each terrain type was estimated by those familiar with Chino landscape, it is not an absolute estimate as the terrain can show large variations for each specific location on site. However, Chino has been operating under the same stormwater plan and management for decades, and the numbers reported herein match well to site observations.

Conclusions:

The NRCS method was used to estimate total runoff volumes for each catchment at Chino based on the estimated undisturbed and disturbed portions of the sub-catchment areas. The results will be used to assist in assessing the current retention capacity of stormwater retention ponds for the 100-year, 24-hour storm event.

Appendix B

	Sample Date	Ag (mg/l)	As$ (mg/l)	Be (mg/l)	$CaCO_3$ (mg/l)	Cd*$ (mg/l)	COD* (mg/l)	Cu$ (mg/l)	Fe (mg/l)	Hg*$ (mg/l)	$NO_3 + NO_2$* (mg/l)	Ni (mg/l)	Pb$ (mg/l)	pH* (su)	Sb (mg/l)	Se (mg/l)	TSS* (mg/l)	Turbidity (NTU)	Zn$ (mg/l)
MSGP-2008 Benchmark Value 8.G.8		0.00078(h)	0.15	0.13	No Benchmark	0.0005(h)	120	0.0038(h)	1.0	0.0014	0.68	0.15(h)	0.014(h)	6-9	0.64	0.005	100	50	0.04(h)
	Note: Chino's first year of sampling ends March 31, 2010																		
SWSS-1			done	done	done	done	done	done (avg 13)	2x/yr for remainder	2x/yr for remainder	done	done (avg 0.36)	done	done	done	done	done	done (avg 83)	done	done
SWPC-2								avg 21				avg 0.93						avg 12	
SWTP-5A								4 more				4 more						4 more	
SWLB-1								1 more				1 more						1 more	
SWLB-2								1 more				1 more						1 more	
SWWS-1								2 more				2 more						2 more	
Note: 2010 sampling period starts June 1 and ends September 30.																			
SWSS-1	7/7/2010	done	done	done	done	done	done			done	done	done	done	7.09	done	done	done	done	done
SWPC-2							done				done						done		
SWTP-5	SWTP-5 acts as a backup to SWTP-5A																		
SWTP-5A	7/13/2010													7.50					
SWLB-1	7/12/2010													7.42					
SWLB-2	7/1/2010													5.65					
SWWS-1	7/12/2010													7.75					
SWSS-1	7/12/2010													7.04					
SWPC-2																			
SWTP-5A	########													7.60					
SWLB-1																			
SWLB-2																			
SWWS-1	7/20/2010													6.93					
SWSS-1																			
SWPC-2																			
SWTP-5A	########													7.18					
SWTP-5A	########	visual taken with pH but sample not taken because sampler not in place												6.93					
SWLB-1																			
SWLB-2																			
SWWS-1																			

Note: Chino will attempt to make up sampling for first year of permit up until March 31, 2010. After March 31, Chino will declare its sampling season from June 1 through September 30 in order to best utilize the summer monsoon.
If Chino is unable to collect a sample during this time (June 1 through September 30), Chino will continue to sample for make up until March 31.

Sample exceeds benchmark

NS Not sampled due to adverse weather conditions

8.G.8.2 Benchmark Monitoring Requirements for discharges from waste rock and overburden piles
Once in year 1. Semi-annual thereafter for parameters above benchmark (Table 8.G-2).
The supplemental requirements from the production of molybdenum (Table 8.G-3) are the same as Table 8.G-2

8.G.8.1 Benchmark Monitoring for Active Copper Ore Mining and Dressing Facilities (Table 8.G-1)
Quarterly for first four quarters. If the average of four samples is > benchmark, sample quarterly thereafter until average is below benchmark. Can also establish background sampling.
If the average of four samples is < benchmark, discontinue sampling.

Note: Sampling does not begin until April 1, 2009
Note: Quarterly visual sampling starts in the first quarter 2009
h hardness dependent
$ Additional Monitoring Requirement for Discharges from Waste Rock and Overburden Piles; Molybdenum requirement

Location	Sample Date	Ag (mg/l)	As (mg/l)	Be (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)	COD (mg/l)	Cu (mg/l)	Fe (mg/l)	Hg (mg/l)	$NO_3 + NO_2$ (mg/l)	TKN (mg/l)	NH_3 (mg/l)	Ni (mg/l)	Pb (mg/l)	pH (su)	Sb (mg/l)	Se (mg/l)	TSS (mg/l)	Turbidity (NTU)	Zn (mg/l)
MSGP-2008 Benchmark Value 8.G.8		0.0138 (h)	0.15	0.13	No Benchmark	0.0045 (h)	120	0.0285 (h)	1.0	0.0014	0.68	1.50	19.00	0.89 (h)	0.213 (h)	6-9	0.64	0.005	100	50	0.23 (h)
SWSS-1	1/28/2010						8.9	0.153	0.142		0.21					7.24			<5.0		
SWSS-1	2/3/2010						16.3				0.14					7.19			<5.0		
SWPC-2	1/28/2010						35.5				1.34					6.98			29.0		
SWPC-2	2/3/2010						14.0				0.28					8.17			<5.0		
SWTP-5	NS						NS				NS					NS			NS		
SWLB-1	1/28/2010						8.3				1.45					6.02			8.0		
SWLB-1	2/3/2010						11.8				0.88					7.22			10.0		
SWLB-2	1/28/2010						19.2				2.15					5.12			<5.0		
SWLB-2	2/3/2010						18.2				1.88					5.01			35.0		
SWWS-1	1/28/2010						20.8				0.33					6.43			7.0		
SWWS-1	2/3/2010						8.3				1.03					7.62			65.0		
SWSS-1	6/25/2009	<0.0050	<0.025	<0.00200	207.00	<0.0020	21.30	0.32	7.15	<0.00020	0.714			<0.010	<0.0075	6.60	<0.020	<0.040	321.00	48.50	0.108
SWPC-2	6/30/2009						18.90				1.270					7.88			6.00		
SWTP-5	NS						NS				NS					NS			NS		
SWLB-1	NS						NS				NS					NS			NS		
SWSS-1	8/25/2009		<0.025			<0.0020	<5.0	0.056	<0.060	<0.00020	0.379	<0.50	0.052		<0.0075	6.71			<5.0	1.29	0.014
SWPC-2	8/26/2009						14.3				0.834	<0.50	0.038			7.14			15.0	17.40	
SWTP-5	NS						NS				NS					NS			NS		
SWLB-1	8/26/2009						<5.0				1.19	0.52	0.151			6.12			5.0	5.19	
SWLB-2	9/4/2009	<0.0050	<0.025	<0.00200	125	<0.0020	32	0.286	1.95	<0.00020	0.879	1.18	0.398	0.015	<0.0075	5.68	<0.020	<0.040	44.0	19.40	0.134
SWSS-1	NS						NS	NS	NS		NS					NS			NS		
SWPC-2	NS						NS				NS					NS			NS		
SWTP-5	NS						NS				NS					NS			NS		
SWLB-1	NS						NS				NS					NS			NS		
SWLB-2	NS						NS				NS					NS			NS		

Discharge monitoring reports are electronically submited to EPA via ENOI
6.2.1 Benchmark Monitoring
The benchmark concentrations are not effluent limitations; a benchmark exceedance, therfore, is not a permit violation.

re-classify as access road

	COD (mg/l)		$NO_3 + NO_2$ (mg/l)		TSS (mg/l)
	120		0.68		100
SWPC-2	35.5	SWPC-2	1.34	SWPC-2	28.0
SWPC-2	14.0	SWPC-2	0.28	SWPC-2	<5.0
SWPC-2	18.90	SWPC-2	1.270	SWPC-2	6.00
SWPC-2	14.3	SWPC-2	0.834	SWPC-2	15.0
total	82.7	total	3.72	total	49.0
average	20.7	average	0.93	average	12.25

	COD (mg/l)		$NO_3 + NO_2$ (mg/l)		TSS (mg/l)
	120		0.68		100
SWLB-1	8.3	SWLB-1	1.45	SWLB-1	8.0
SWLB-1	11.8	SWLB-1	0.88	SWLB-1	10.0
SWLB-1	20.6	SWLB-1	0.603	SWLB-1	6.0
SWLB-1	5	SWLB-1	1.19	SWLB-1	5
total	45.7	total	4.12	total	29.0
average	11.425	average	1.03	average	7.25

	COD (mg/l)		$NO_3 + NO_2$ (mg/l)		TSS (mg/l)
	120		0.68		100
SWLB-2	19.2	SWLB-2	2.15	SWLB-2	5.0
SWLB-2	18.2	SWLB-2	1.88	SWLB-2	35.0
SWLB-2	15.8	SWLB-2	0.792	SWLB-2	9.0
SWLB-2	32	SWLB-2	0.879	SWLB-2	44.0
total	85.2	total	5.70	total	93.0
average	21.3	average	1.43	average	23.25

	COD (mg/l)		$NO_3 + NO_2$ (mg/l)		TSS (mg/l)
	120		0.68		100
SWWS-1	20.8	SWWS-1	0.33	SWWS-1	7.0
SWWS-1	8.3	SWWS-1	1.03	SWWS-1	65.0
SWWS-1	13.7	SWWS-1	0.19	SWWS-1	320
SWWS-1	23.5	SWWS-1	0.713	SWWS-1	207
total	66.3	total	2.27	total	599.0
average	16.6	average	0.57	average	149.8

	COD (mg/l)		$NO_3 + NO_2$ (mg/l)		TSS (mg/l)
	120		0.68		100
SWTP-5A	112	SWTP-5A	0.827	SWTP-5A	6560
SWTP-5A	18.6	SWTP-5A	0.728	SWTP-5A	201
SWTP-5A	21.6	SWTP-5A	0.920	SWTP-5A	274
SWTP-5A	11.9	SWTP-5A	0.516	SWTP-5A	95.0
total	164	total	2.991	total	7130
average	41.0	average	0.748	average	1782.5

	201
	274
	95.0
	570
	190

8.G.8.2 Benchmark Monitoring for discharges from waste rock and overburden piles
Perform benchmark monitoring once in the first year and twice annually in all subsequent years of coverage under this permit for any parameters for which the benchmark has been exceeded

Table 8.G-1

	COD* (mg/l)		$NO_3 + NO_2$* (mg/l)		TSS* (mg/l)
	120		0.68		100
SWSS-1	8.9	SWSS-1	0.21	SWSS-1	5.0
SWSS-1	16.3	SWSS-1	0.14	SWSS-1	5.0
SWSS-1	21.30	SWSS-1	0.714	SWSS-1	321.00
SWSS-1	5	SWSS-1	0.379	SWSS-1	5
total	51.5	total	1.45	total	333.0
average	12.875	average	0.36	average	83.25

8.3.1.2 Benchmark Monitoring Schedule
After collection of 4 quarterly samples, if the average of the 4 monitoring values for any parameter does not exceed the benchmark, you have fulfilled your monitoring requirements for that parameter for the permit term.
Natural Background Pollutant Levels Sample background soils for nitrate and nitrite.
If exceedance of the benchmark is attributable soly to the presence of that pollutant in the natural background, you are not required to perform corrective action or additional benchmark monitoring.

Table 8.G-2 (TSS managed under Table 8.G-1)

Date	Ag (mg/l)	As (mg/l)	Be (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)	Cu (mg/l)	Fe (mg/l)	Hg (mg/l)	Ni (mg/l)	Pb (mg/l)	pH (su)	Sb (mg/l)	Se (mg/l)	Turbidity (NTU)	Zn (mg/l)
SWSS-1	0.0138 (h)	0.15	0.13	no Benchmark	0.0045 (h)	0.0285 (h)	1.0	0.0014	0.89 (h)	0.213 (h)	6-9	0.64	0.005	50	0.23 (h)
6/25/2009	<0.0050	<0.025	<0.00200	207.00	<0.0020	0.32	7.15	<0.00020	<0.010	<0.0075	6.60	<0.020	<0.040	48.50	0.108
8/25/2009						0.056	<0.060								
1/28/2010						0.153	0.142								
7/7/2010						0.225	5.70				7.09				
7/12/2010						0.018	0.198				7.04				
						0.1544	2.65								

hardness should be taken with each sample.

Location	Sample Date	Ag (mg/l)	As (mg/l)	Be (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)	COD (mg/l)	Cu (mg/l)	Fe (mg/l)	Hg (mg/l)	$NO_2^- + NO_3^-$ (mg/l)	TKN (mg/l)	NH_3 (mg/l)	Ni (mg/l)	Pb (mg/l)	pH (su)	Sb (mg/l)	Se (mg/l)	TSS (mg/l)	Turbidity (NTU)	Zn (mg/l)
MSGP-2008 Benchmark Value 8.G.8		0.0138 (h)	0.15	0.13	No Benchmark	0.0045 (h)	120	0.0285 (h)	1.0	0.0014	0.68	1.50	19.00	0.89 (h)	0.213 (h)	6-9	0.64	0.005	100	50	0.23 (h)
SWSS-1	1/28/2010						8.9	0.153	0.142		0.209					7.24			<5.0		
SWSS-1	2/3/2010						16.3				0.144					7.19			<5.0		
SWPC-2	1/29/2010						35.5				1.34					6.98			28.0		
SWPC-2	2/3/2010						14.0				0.276					6.17			<5.0		
SWTP-5A	NS						NS				NS					NS			NS		
SWLB-1	1/29/2010						8.3				1.45					6.02			8.0		
SWLB-1	2/3/2010						11.8				0.875					7.22			10.0		
SWLB-2	1/28/2010						19.2				2.15					5.12			<5.0		
SWLB-2	2/3/2010						18.2				1.88					5.01			35.0		
SWWS-1	1/28/2010						20.8				0.33					6.43			7.0		
SWWS-1	2/3/2010						8.3				1.03					7.62			65.0		
SWSS-1	There were no discharges (NS) through any of the outfalls during the entire second quarter of 2010.																				
SWTP-5A	SWPC-2 was taken off as an outfall because the haul road was designated to access road only due to the completion of tailings removal from Lake One.																				
SWLB-1	Chino decided to change the sampling schedule from quarterly to seasonal monsoon (June1 through Septempber 30) per MSGP 2008 6.1.6																				
SWLB-2																					
SWWS-1																					
							COD	Cu	Fe		NO2/NO3					pH			TSS		
SWSS-1	7/7/2010							0.225	5.70							7.09					
SWSS-1	7/12/2010							0.018	0.198							7.04					
SWTP-5A	7/13/2010						11.9				0.516					7.50			95.0		
SWTP-5A	7/22/2010						21.6				0.920					7.60			274		
SWTP-5A	7/26/2010						112				0.827					7.18			6560		
SWTP-5A	7/27/2010						18.6				0.728					6.93			201		
SWLB-1	7/12/2010						20.6				0.603					7.42			6.0		
SWLB-2	7/1/2010						15.8				0.792					5.65			9.0		
SWWS-1	7/12/2010						13.7				0.190					7.75			320		
SWWS-1	7/20/2010						23.5				0.713					6.93			207		
			As			Cd		Cu	Fe	Hg					Pb	pH			TSS		Zn
SWSS-1																					
SWTP-5A																					
SWTP-5																					
SWLB-1																					
SWLB-2																					
SWWS-1																					

Discharge monitoring reports are electronically submited to EPA via ENOI

6.2.1 Benchmark Monitoring

The benchmark concentrations are not effluent limitations; a benchmark exceedance, therfore, is not a permit violation.

Sample exceeds benchmark

NS Not sampled due to adverse weather conditions

8.G.8.2 Benchmark Monitoring Requirements for discharges from waste rock and overburden piles
Once in year 1. Semi-annual thereafter for parameters above benchmark (Table 8.G-2).
The supplemental requirements from the production of molybdenum (Table 8.G-3) are the same as Table 8.G-2

8.G.8.1 Benchmark Monitoring for Active Copper Ore Mining and Dressing Facilities (Table 8.G-1)
Quarterly for first four quarters. If the average of four samples is > benchmark, sample quarterly thereafter until average is below benchmark. Can also establish background sampling.
If the average of four samples is < benchmark, discontinue sampling.

Note: Sampling does not begin until April 1, 2009
Note: Quarterly visual sampling starts in the first quarter 2009

h hardness dependent
$ Additional Monitoring Requirement for Discharges from Waste Rock and Overburden Piles; Molybdenum requirement

Location	Sample Date	Ag (mg/l)	As (mg/l)	Be (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)	COD (mg/l)	Cu (mg/l)	Fe (mg/l)	Hg (mg/l)	$NO_2^- + NO_3^-$ (mg/l)	TKN (mg/l)	NH_3 (mg/l)	Ni (mg/l)	Pb (mg/l)	pH (su)	Sb (mg/l)	Se (mg/l)	TSS (mg/l)	Turbidity (NTU)	Zn (mg/l)
MSGP-2008 Benchmark Value 8.G.8		0.0138 (h)	0.15	0.13	No Benchmark	0.0045 (h)	120	0.0285 (h)	1.0	0.0014	0.68	1.50	19.00	0.89 (h)	0.213 (h)	6-9	0.64	0.005	100	50	0.23 (h)
SWLB-1	NS																				
SWLB-2	NS																				
SWSS-1	NS																				
SWWS-1	NS	There were no discharges through these outfalls during the entire first quarter of 2011.																			
SWTP-5	NS																				
SWLB-1	NS																				
SWLB-2	NS																				
SWSS-1	NS																				
SWWS-1	NS	There were no discharges through these outfalls during the entire second quarter of 2011.																			
SWTP-5	NS																				
SWTP-5b	NS																				
							COD	Cu	Fe		NO2/NO3					pH			TSS		
SWLB-1																					
SWLB-1		SWLB-1 has met all sampling requirements for MSGP-2008. No further sampling (other than visual) is required for remainder of permit.																			
SWLB-1																					
SWLB-1																					
SWLB-2	7/25/2011		SWLB-2 continues to improve for pH as vegitation improves. Chino will continue with visual and pH monitoring for 2012.													6.02					
SWLB-2	7/27/2011		No corrective actions will be performed for the remainder of permit unless warranted.													6.13					
SWLB-2	8/2/2011															5.70					
SWLB-2	8/30/2011															6.09					
Average																5.99					
			As$		Ca	Cd$h		Cu$h		Hg$					Pb$h						Zn$h
SWSS-1	6/25/2009		<0.025		207.00	<0.0020		0.32	7.15	<0.0002					<0.0075	6.60					0.1080
SWSS-1	7/25/2011		<0.025		74.6	<0.0020		0.043	0.278	<0.00020					<0.0075	6.94					0.0113
SWSS-1	8/2/2011		<0.025		53.0	<0.0020		0.020	<0.060	<0.0002					<0.0075	6.84					0.0140
SWSS-1	8/17/2011		<0.025		54.4	<0.0020				<0.00020					<0.0075	7.01					0.0130
Average			non detect			non detect		0.032	0.139	non detect					non detect	6.85					0.0366
		Additional sampling due to Mo production yielded non detect for all samples. No further sampling is required for Mo production.										Sampling for Cu and Fe showed much improvement due to additional groundwater pumping at WD-1.									
		Sampling for Cu and Fe will continue for 2012. No corrective actions will be performed for 2012.																			
SWWS-1	8/17/2011																		74.0		
SWWS-1	8/19/2011		SWWS-1 has met all sampling requirements for MSGP-2008. No further sampling (other than visual) is required for remainder of permit.																18.0		
SWWS-1	9/16/2011																		75.0		
SWWS-1	10/12/2011																		12.0		
Average																			44.8		
SWTP-5	8/3/2011																		943		
SWTP-5	8/18/2011		SWTP-5 is currently under reclamation. BMPs will be implemented to control runoff. Chino will visual sample only for 2012.																145		
SWTP-5	8/16/2011																		166		
SWTP-5	8/15/2011																		192		
SWTP-5	10/12/2011																		9.0		
Average																			291.0		
							COD				NO2/NO3								TSS		
SWTP-5b	8/1/2011						48.4				0.890								242		
SWTP-5b	8/18/2011						37.6				1.76								177		
SWTP-5b	9/12/2011						25.3				<0.050								53.0		
SWTP-5b	NS		Did not get the required 4 samples for average. Does not matter because area is under reclamation.																		
Average			SWTP-5b is currently under reclamation. BMPs will be implemented to control runoff. Chino will visual sample only for 2012.																		
																			TSS		
SWLQ-3	8/2/2011																		460		
SWLQ-3	8/17/2011		Chino will modify BMP and sample again for 2012.																210		
SWLQ-3	8/18/2011																		231		
SWLQ-3	9/15/2011																		85.0		
SWLQ-3	10/4/2011																		133		
Average																			223.8		

Chino decided to change the sampling schedule from quarterly to seasonal monsoon (June1 through Septempber 30) per MSGP 2008 6.1.6

Sample exceeds benchmark

NS Not sampled due to adverse weather conditions

8.G.8.2 Benchmark Monitoring Requirements for discharges from **waste rock and overburden piles**
Once in year 1. Semi-annual thereafter for parameters above benchmark (Table 8.G-2).
The supplemental requirements from the production of molybdenum (Table 8.G-3) are the same as Table 8.G-2

8.G.8.1 **Benchmark Monitoring** for Active Copper Ore Mining and Dressing Facilities (Table 8.G-1)
Quarterly for first four quarters. If the average of four samples is > benchmark, sample quarterly thereafter until average is below benchmark. Can also establish background sampling.
If the average of four samples is < benchmark, discontinue sampling.

8.G.3.1 **Mining Operation**
Consists of the active and temporarily inactive phases, and the reclamtion phase, but excludes the exploration and construction phases

8.G.3.5 **Reclamation Phase** Activities undertaken, in compliance with applicable mined land reclamation requirements.
Following the cessation of the "active phase', intended to return the land to an oppropriate post-mining land use in order to meet applicable Federal and State reclamation requirements.
The reclamation phase is considered part of 'mining operations.'

Sector J Non-Metallic Mineral Mining and Dressing
8.J.8 Sector Specific Benchmarks
Subsector J2, Dinension and Crushed stone and nonmetallic minerals (crushed and broken limestone).

Discharge monitoring reports are electronically submited to EPA via ENOI

Note: Sampling does not begin until April 1, 2009

Note: Quarterly visual sampling starts in the first quarter 2009

h hardness dependent

$ Additional Monitoring Requirement for Discharges from Waste Rock and Overburden Piles; Molybdenum requirement

Chino Mines Company
Storm Water Monitoring Data
2012

Location	Sample Date	Ag (mg/l)	As (mg/l)	Be (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)	COD (mg/l)	Cu (mg/l)	Fe (mg/l)	Hg (mg/l)	$NO_2^- + NO_3^-$ (mg/l)	TKN (mg/l)	NH_3 (mg/l)	Ni (mg/l)	Pb (mg/l)	pH (su)	Sb (mg/l)	Se (mg/l)	TSS (mg/l)	Turbidity (NTU)	Zn (mg/l)
MSGP-2008 Benchmark Value 8.G.8		0.0138 (h)	0.15	0.13	No Benchmark	0.0045 (h)	120	0.0285 (h)	1.0	0.0014	0.68	1.50	19.00	0.89 (h)	0.213 (h)	6-9	0.64	0.005	100	50	0.23 (h)
SWLB-2	NS	There were no discharges through these outfalls during the entire first quarter of 2012.																			
SWRC-1	NS	There were no discharges through these outfalls during the entire second quarter of 2012.																			
SWLQ-3	NS	There were no discharges through this outfall during the entire forth quarter of 2012.																			
SWSS-1	NS																				
SWLB-1	NS																				
SWLB-1	NS	SWLB-1 has met all sampling requirements for MSGP-2008.																			
SWLB-1	NS	No further sampling (other than visual) is required for remainder of permit.																			
SWLB-1	NS																				
																pH					
SWLB-2	8/24/2012		SWLB-2 continues to improve for pH as vegitation improves.													7					
SWLB-2	9/14/2012		Measured pH with Whatman pH indicator paper type cf, Cat. No. 2613991													7					
SWLB-2			Chino will continue with visual and pH monitoring for 2013.																		
SWLB-2																					
Average																7					
							COD				NO_2/NO_3								TSS		
SWRC-1	7/26/2012						30.5				1.10								55.0		
SWRC-1	8/20/2012						18.1				0.757								44.0		
SWRC-1																					
SWRC-1																					
Average							24.3				0.93								49.5		
								Cu$h	Fe												
SWSS-1	7/26/2012							0.078	2.14	Additional sampling due to Mo production yielded non detect for all samples in 2011. No further sampling is required for Mo production.											
SWSS-1	8/20/2012							0.036	0.589	Will continue with groundwater pumping at WD-1.											
Average								0.057	1.36												
SWWS-1	NS																				
SWWS-1	NS	SWWS-1 has met all sampling requirements for MSGP-2008.																			
SWWS-1	NS	No further sampling (other than visual) is required for remainder of permit.																			
SWWS-1	NS																				
							COD				NO_2/NO_3								TSS		
SWTP-5																					
SWTP-5		Due to Reclamation activities, this outfall no longer exists.																			
SWTP-5a																					
SWTP-5a																					
							COD				NO_2/NO_3								TSS		
SWTP-5b																					
SWTP-5b		Due to Reclamation activities, this outfall no longer exists.																			
SWTP-5b																					
SWTP-5b																					
																			TSS		
SWLQ-3																					
SWLQ-3		There were no discharges through this outfall during 2012.																			
SWLQ-3																					

Chino decided to change the sampling schedule from quarterly to seasonal monsoon (June1 through Septempber 30) per MSGP 2008 6.1.6

Sample exceeds benchmark

NS Not sampled due to adverse weather conditions

8.G.8.2 Benchmark Monitoring Requirements for discharges from **waste rock and overburden piles**
Once in year 1. Semi-annual thereafter for parameters above benchmark (Table 8.G-2).
The supplemental requirements from the production of molybdenum (Table 8.G-3) are the same as Table 8.G-2

8.G.8.1 **Benchmark Monitoring** for Active Copper Ore Mining and Dressing Facilities (Table 8.G-1)
Quarterly for first four quarters. If the average of four samples is > benchmark, sample quarterly thereafter until average is below benchmark. Can also establish background sampling.
If the average of four samples is < benchmark, discontinue sampling.

8.G.3.1 **Mining Operation**
Consists of the active and temporarily inactive phases, and the reclamtion phase, but excludes the exploration and construction phases

8.G.3.5 **Reclamation Phase** Activities undertaken, in compliance with applicable mined land reclamation requirements.
Following the cessation of the "active phase', intended to return the land to an oppropriate post-mining land use in order to meet applicable Federal and State reclamation requirements.
The reclamation phase is considered part of 'mining operations.'

Sector J Non-Metallic Mineral Mining and Dressing
8.J.8 Sector Specific Benchmarks
Subsector J2, Dinension and Crushed stone and nonmetallic minerals (crushed and broken limestone).

Discharge monitoring reports are electronically submited to EPA via ENOI

Note: Sampling does not begin until April 1, 2009

Note: Quarterly visual sampling starts in the first quarter 2009

h hardness dependent

$ Additional Monitoring Requirement for Discharges from Waste Rock and Overburden Piles; Molybdenum requirement

Chino Mines Company
Storm Water Monitoring Data
2013

Location	Sample Date	Ag (mg/l)	As (mg/l)	Be (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)	COD (mg/l)	Cu (mg/l)	Fe (mg/l)	Hg (mg/l)	$NO_2 + NO_3$ (mg/l)	TKN (mg/l)	NH_3 (mg/l)	Ni (mg/l)	Pb (mg/l)	pH (su)	Sb (mg/l)	Se (mg/l)	TSS (mg/l)	Turbidity (NTU)	Zn (mg/l)
MSGP-2008 Benchmark Value 8.G.8		0.0138 (h)	0.15	0.13	No Benchmark	0.0045 (h)	120	0.0285 (h)	1.0	0.0014	0.68	1.50	19.00	0.89 (h)	0.213 (h)	6-9	0.64	0.005	100	50	0.23 (h)
SWLB-2	NS																				
SWRC-1	NS	There were no discharges through these outfalls during the entire first quarter of 2013.																			
SWLQ-3	NS																				
SWSS-1	NS																				
SWTP-1	NS																				
SWTP-6	NS																				
SWTP-7	NS																				
SWTP-8	NS																				
SWLB-2	NS																				
SWRC-1	NS	There were no discharges through this outfall during the entire second quarter of 2013.																			
SWLQ-3	NS																				
SWSS-1	NS																				
SWTP-1	NS																				
SWTP-6	NS																				
SWTP-7	NS																				
SWTP-8	NS																				
																pH					
SWLB-2	7/4/2013															7					
SWLB-2	7/12/2013	SWLB-2 continues to improve for pH as vegitation improves.														7					
SWLB-2	7/15/2013	Measured pH with Whatman pH indicator paper type cf. Cat. No. 2613991														7					
SWLB-2	7/21/2013															7					
Average																7					
							COD				NO2/NO3								TSS		
SWRC-1	7/26/2012						30.5				1.10								55.0		
SWRC-1	8/20/2012						18.1				0.757								44.0		
SWRC-1	7/12/2013						46.6				4.00								24.0		
SWRC-1	7/22/2013						38.1				2.32								30.0		
Average							33.3				**2.04**								38.3		
								Cu$h	Fe												
SWSS-1	7/12/2013	Will continue with groundwater pumping at WD-1.						0.065	0.068												
SWSS-1	7/24/2013							0.019	0.254												
Average								**0.042**	0.161												
							COD				NO2/NO3								TSS		
SWTP-1																					
SWTP-1		New outfall post reclamation.																			
SWTP-1		There were no discharges through this outfall during 2013.																			
SWTP-1																					
Average																					
							COD				NO2/NO3								TSS		
SWTP-6																					
SWTP-6		New outfall post reclamation.																			
SWTP-6		There were no discharges through this outfall during 2013.																			
SWTP-6																					
Average																			0.0		
							COD				NO2/NO3								TSS		
SWTP-7																					
SWTP-7		New outfall post reclamation.																			
SWTP-7		There were no discharges through this outfall during 2013.																			
SWTP-7																					
							COD				NO2/NO3								TSS		
SWTP-8																					
SWTP-8		New outfall post reclamation.																			
SWTP-8		There were no discharges through this outfall during 2013.																			
SWTP-8																					
Average																					
																			TSS		
SWLQ-3	7/22/2013																		62.0		
SWLQ-3	7/29/2013																		248.0		
SWLQ-3		There were no more discharges through this outfall during 2013																			
SWLQ-3		Will continue to sample into 2014 to get average of four samples.																			
Average																					

Chino decided to change the sampling schedule from quarterly to seasonal monsoon (June1 through Septempber 30) per MSGP 2008 6.1.6

Sample exceeds benchmark

NS Not sampled due to adverse weather conditions

8.G.8.2 Benchmark Monitoring Requirements for discharges from **waste rock and overburden piles**
Once in year 1. Semi-annual thereafter for parameters above benchmark (Table 8.G-2).
The supplemental requirements from the production of molybdenum (Table 8.G-3) are the same as Table 8.G-2

8.G.8.1 **Benchmark Monitoring** for Active Copper Ore Mining and Dressing Facilities (Table 8.G-1)
Quarterly for first four quarters. If the average of four samples is > benchmark, sample quarterly thereafter until average is below benchmark. Can also establish background sampling.
If the average of four samples is < benchmark, discontinue sampling.

Sector J Non-Metallic Mineral Mining and Dressing
8.J.8 Sector Specific Benchmarks
Subsector J2, Dinension and Crushed stone and nonmetallic minerals (crushed and broken limestone).

Discharge monitoring reports are electronically submited to EPA via ENOI

Note: Sampling does not begin until April 1, 2009

Note: Quarterly visual sampling starts in the first quarter 2009

h hardness dependent

$ Additional Monitoring Requirement for Discharges from Waste Rock and Overburden Piles; Molybdenum requirement

Freeport McMoRan Chino Mines Company
Storm Water Monitoring Data
2014

Location	Sample Date	Ag (mg/l)	As (mg/l)	Be (mg/l)	$CaCO_3$ (mg/l)	Cd (mg/l)	COD (mg/l)	Cu (mg/l)	Fe (mg/l)	Hg (mg/l)	$NO_2^- + NO_3^-$ (mg/l)	TKN (mg/l)	NH_3 (mg/l)	Ni (mg/l)	Pb (mg/l)	pH (su)	Sb (mg/l)	Se (mg/l)	TSS (mg/l)	Turbidity (NTU)	Zn (mg/l)
MSGP-2008 Benchmark Value 8.G.8		0.0138 (h)	0.15	0.13	No Benchmark	0.0045 (h)	120	0.0285 (h)	1.0	0.0014	0.68	1.50	19.00	0.89 (h)	0.213 (h)	6-9	0.64	0.005	100	50	0.23 (h)
SWLQ-3	NS																				
SWSS-1	NS																				
SWTP-1	NS	There were no discharges through these outfalls during the entire first quarter of 2014.																			
SWTP-6	NS	There were no discharges through these outfalls during the entire second quarter of 2014.																			
SWTP-7	NS	There were no discharges through these outfalls during the entire fourth quarter of 2014.																			
SWTP-8	NS																				
								Cu$h	Fe												
SWSS-1	7/15/2014	Will continue with groundwater pumping at WD-1.						0.082	0.799												
SWSS-1	7/30/2014							0.049	0.706												
Average								0.066	0.753												
							COD				NO2/NO3								TSS		
SWTP-1																					
SWTP-1																					
SWTP-1																					
SWTP-1																					
Average																					
							COD				NO2/NO3								TSS		
SWTP-6																					
SWTP-6																					
SWTP-6																					
SWTP-6																					
Average																					
							COD				NO2/NO3								TSS		
SWTP-7																					
SWTP-7																					
SWTP-7																					
SWTP-7																					
							COD				NO2/NO3								TSS		
SWTP-8																					
SWTP-8																					
SWTP-8																					
SWTP-8																					
Average																					
																			TSS		
SWLQ-3	7/22/2013																		62.0		
SWLQ-3	7/29/2013																		248.0		
SWLQ-3	9/15/2014																		57.0		
SWLQ-3	9/17/2014																		129.0		
Average																			124.0		

Chino decided to change the sampling schedule from quarterly to seasonal monsoon (June1 through Septempber 30) per MSGP 2008 6.1.6

Sample exceeds benchmark

NS Not sampled due to adverse weather conditions

8.G.8.2 Benchmark Monitoring Requirements for discharges from **waste rock and overburden piles**
Once in year 1. Semi-annual thereafter for parameters above benchmark (Table 8.G-2).
The supplemental requirements from the production of molybdenum (Table 8.G-3) are the same as Table 8.G-2

8.G.8.1 **Benchmark Monitoring** for Active Copper Ore Mining and Dressing Facilities (Table 8.G-1)
Quarterly for first four quarters. If the average of four samples is > benchmark, sample quarterly thereafter until average is below benchmark. Can also establish background sampling.
If the average of four samples is < benchmark, discontinue sampling.

Sector J Non-Metallic Mineral Mining and Dressing
8.J.8 Sector Specific Benchmarks
Subsector J2, Dinension and Crushed stone and nonmetallic minerals (crushed and broken limestone).

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